

Chapter 6

Performance Standards for Smaller Projects

Alternative performance standards may be used for certain smaller, residential projects. These generally include specific development restrictions on the use of Low Impact Development (LID) practices.

6.1 Single Family Residences and Small Subdivisions with No New Road

There are some kinds of relatively low impact, residential development where the level of analysis applied in the previous sections may be inappropriate or unreasonable. This section prescribes comparatively simple, alternative performance standards which may be applied to: (1) new single family residences or duplexes on existing lots which are not part of a subdivision that has already incorporated appropriate phosphorus controls; and (2) subdivisions of five or fewer lots that do not involve the construction of a new road or expansion of an existing road. New residential developments which fall into either of these categories may meet their

phosphorus control obligations by incorporating the phosphorus control measures listed either under Basic Single Family Residential Lot Standards or Alternative Single Family Residential Lot Standards below; and by maintaining these measures over the long term.

Basic Single Family Residential (SFR) Lot Standards

The following basic Single Family Residence Lot Standard is the preferred way of addressing new development of individual residential lots or small residential subdivisions that do not include a new road. A project must meet all provisions of the standard. The standards for appropriate buffer design and maintenance are presented in section 6.2.



Smaller residential development projects can use alternative performance standards to meet their phosphorus control obligations. These generally involve restrictions on disturbance, buffers and impervious area or the incorporation of Low Impact Development (LID) techniques.

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Basic SFR Lot Standard	
Requirements for New Single Family Lot Development:	
• Disturbance on an individual lot must be less than 15,000 square feet (including building, driveway, walkways, lawn area, construction access, grading).	
• A minimum natural vegetated buffer must be maintained downgradient of all developed area on the lot. This buffer shall be 35 feet deep if naturally forested or 50 feet deep if maintained as a natural meadow.*	
• No more than 7,500 square feet of impervious cover is located on the property.	
• A minimum of 25 percent of the lot area must be maintained as undisturbed natural area.*	

*Note: If the lot or a portion of the lot is located within a watershed to a Lake Most at Risk from New Development, Urban Impaired Stream, or other impaired or sensitive waterbodies as designated by the municipality for the purposes of this standard, a minimum buffer of 50 feet if naturally forested or 75 feet if maintained as a meadow must be maintained downgradient of all developed area on the lot, and a minimum of 40 percent of the lot area must be maintained as undisturbed natural area. If the existing land has been disturbed by prior activities, a natural vegetated buffer and/or undisturbed natural area may be proposed through restoration and revegetation.

Alternative Single Family Residential Lot Standards

A property owner or developer may choose not to meet the Basic Single Family Residential Lot

Standard due to site constraints or design preference. In situations where the Basic Standard is not met on a project, the project must meet the following Alternative Single Family Residential Lot Standards.

Alternative SFR Lot Standards	
Requirements for New Single Family Residential Lot Development	
• Use Low Impact Development (LID) practices from those listed in Section 6.2 and described in the Maine LID Guidance Manual (September 2007) prepared for the DEP by the Horsley Whitten Group, Inc. These measures should be sized to treat 0.5 inches of runoff from all impervious surfaces on the site, and 0.2 inches of runoff from all disturbed pervious areas of the site (lawn).*	
• The LID practices installed on the site must be maintained in perpetuity. If necessary, LID practices may be replaced with new LID practices as long as the overall site treatment standard above is met.	

* Note: If the lot or a portion of the lot is located within watersheds to Lakes Most at Risk from New Development or other impaired or sensitive waterbodies as designated by the municipality for the purposes of this standard, the project must treat one inch of runoff from impervious surfaces and 0.4 inch from disturbed pervious surfaces.

Meeting this standard may require the use of more than one LID practice on the site, due to existing site topography and the layout of the property. For example, half of the roof may drain to the front of a building while the other half drains to the back of the building, and the lawn and driveway/parking area drain off to one side of the property. Drainage in each of these directions must be captured and treated using an LID practice. The selection, size and location of

the LID practices used on a given site will depend on the size of the area draining to each practice and the impervious area versus lawn area. While this may not always be feasible, applicants are encouraged to maintain natural buffers to the extent possible as a primary LID technique, which can then be augmented by other practices on the site. Guidance on how to size each LID practice is found in section 6.2 below.

6.2 LID Practices

LID practices can be used to capture and treat runoff from residential rooftops, non-rooftop impervious areas such as paved driveways, patios and walkways, and maintained lawn areas. While there are a number of practices considered to be LID practices, this section lists just those that are appropriate for single family residential lots. These include:

- Buffers;
- Underdrain soil filters (rain gardens and swales);
- Infiltration practices (dry wells and infiltration trench); and
- Pervious pavements.

The design and maintenance standard for Buffer are presented below, and should be applied to projects meeting the Basic SFR Lot Standard. Design and maintenance standards for the other measures are described in detail in the Maine LID Guidance Manual (September 2007) prepared for the DEP by the Horsley Whitten Group, Inc., and these should be applied to projects meeting the Alternative SFR Lot Standards.

Vegetative Buffers

Vegetative buffers are areas of dense forest or meadow vegetation located adjacent and downgradient of developed areas that provide storage and treatment for stormwater that enters them in diffuse overland flow. They should be

designed, implemented and maintained in accordance with the following:

- a. *Discharge of stormwater to the buffer* - It is essential that the stormwater entering the buffer not be channelized prior to discharge into the buffer. Grading of developed areas upgradient of the buffer must be done in a way that maintains diffuse overland flow and avoids concentration of the runoff..
- b. *Topography* - The topography of a buffer area must maintain well-distributed stormwater runoff and can not allow stormwater runoff to concentrate as it flows across the buffer. Flow paths of runoff through a buffer must not converge, but must be essentially parallel or diverging.
- c. *Vegetative cover* - The vegetative cover of a buffer must be either forest or meadow. In most instances the sizing of a buffer varies depending on vegetative cover type.
 - i. Forest buffer - A forest buffer must have a well distributed stand of trees with essentially complete canopy cover, and must be maintained as such. A forested buffer must also have an undisturbed layer of duff covering the mineral soil. Activities that may result in disturbance of the duff layer are prohibited in a buffer.

ii. Meadow buffer - A meadow buffer must have a dense cover of grasses, or a combination of grasses and shrubs or trees. A buffer must be maintained as a meadow with a generally tall stand of grass, not as a lawn. It must not be mown more than twice per calendar year. If a buffer is not located on natural soils, but is constructed on fill or reshaped slopes, a buffer surface must either be isolated from stormwater discharge until a dense sod is established, or must be protected by a three inch layer of erosion control mix or other woodwaste material approved by the department before stormwater is directed to it, with

vegetation established using an appropriate seed mix.

iii. Mixed meadow and forest buffer - If a buffer is part meadow and part forest, the required sizing of the buffer must be determined as a weighted average, based on the percent of the buffer in meadow and the percent in forest.

d. Deed restrictions and covenants - Areas designated as vegetated buffers must be clearly identified on site plans and protected from disturbance by deed restrictions and covenants.